

Another important point is exhibited in this case—namely, that the disease of such a fearful nature may assume at first an appearance of one of every day occurrence—in fact, it may commence as a common sore throat.

Now, as to the propriety of performing tracheotomy in this case at an early period of the disease (notwithstanding the pre-existence of pneumonia), would that operation have afforded hope of ultimate success? I fear not, as the patient would have had to battle against bronchitis, which is almost a constant consequence of the operation.

However, I proposed the operation, hot as it was considered that mercury had not had a fair trial, so it was determined to persevere in its use so long as hopes of success could be entertained. The result we have seen.

In the second case we see the fatal result follow the operation sixteen hours after the disease declared itself. The cause of failure in this instance is evident. Had the child had the benefit of the simple operation after the leeching and tartar emetic failed in affording permanent relief, I have no doubt it would have been successful.

From these facts I argue that the frequent failure of tracheotomy, like the similar result after the operation for the relief of strangulated hernia, is due to that remedy being too long delayed, in order to make use of less certain means of cure.

Mr. Parr has seen four cases of this disease, one of which was operated on by Dr. Porter, and recovered. In reply to a remark of Dr. O'Ryan, that he had seen in one of the French Journals scarifications of the rima glottidis recommended, Dr. Parr observed that the French had invented a sort of ring, of which he had two or three sizes, which was passed into the mouth, and kept down, the base of the tongue, so that by means of such an instrument, scarifications of the rima glottidis might be effected without much difficulty.—*Dublin Med. Press.*

[A similar operation has been recommended by Dr. Buck in œdema of the glottis. See this Journal for Oct. 1847, p. 543.]

28. *Steracutine*.—Dr. VENGA ANDREA, of Milan, read a communication to the Italian Scientific Congress, held at Venice, Sept., 1847, on a fatty substance of a greenish colour, sometimes passed by children at the breast, and to which the name of steracutine was given some time ago by Prof. Semmola, of Naples, and the production of which the Prof. ascribes to the imperfect digestion of the buty-raceous portion of the milk. Dr. Verga's researches tend to elucidate the following points:—

1. That children at the breast void such solid fatty concretions, when under the influence of certain diseases, is correct. These concretions are more or less rounded, transparent in their periphery, soft to the touch, insoluble in water, but soluble in alcohol.
2. This substance is not voided by sucking children only; they have been seen at six and seven years old, and even in adults.
3. Nervous diseases are not the only affections connected with it; the author has observed it in measles and meningitis.
4. This substance is almost exclusively composed of stearine, and cholesterol exists in it in a very small proportion.
5. There is no constant and regular connection between these evacuations and the progress of the diseases during which they may be observed.
6. Like other excretions, this may prove critical and salutary, or it may be merely symptomatic, and of a bad omen.—*Lancet*, March 18, 1848, from *L'Union Médicale*.

## SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

29. *Cases of Femoral and Popliteal Aneurism successfully treated by Compression*.—A case of femoral aneurism cured by compression in thirty-three hours, by Staff-Surgeon HUMPHREY; and another of popliteal aneurism cured by compression in six days, by J. TUFFNEL, Esq., with some very interesting remarks on these cases

and on the advantages which compression possesses over the ligature in the treatment of aneurism, by Dr. BELLINGHAM, are contained in the *Dublin Medical Press* for Dec. 1, 1847.

The subject of the first case was a soldier, 31 years of age, with an aneurism about the size of half an orange, at the lower third of the thigh, which had first been observed three weeks previously. At 12 o'clock on the 23d July, Read's aneurism compress was applied over the femoral artery of the groin, and the screw tightened so as to stop pulsation in the sac, and render the passage of the blood through the vessel imperceptible by the stethoscope. A clamp was loosely applied over the artery in the middle of the thigh, to be used when the pain from the instrument in the groin became too severe. In half an hour, the limb became slightly swollen, and of a darker colour, and its temperature fell. A flannel roller was applied from the foot to above the knee. In an hour and a quarter, the pain in the groin having become very intense, the instrument was relaxed, the clamp having been previously screwed sufficiently tight to command the circulation. About two o'clock (two hours after the first application of pressure), stinging pains began to be felt in the aneurismal sac and neighbouring part of the thigh, which became very tender to the touch. The point of pressure was changed every hour at first, but afterwards every twenty or twenty-five minutes, care being always taken to effect compression of the artery with the second instrument before relaxing the other, in order to prevent a jet of blood into the sac. At nine in the evening, the pain in the thigh being very severe, both instruments were loosened, and the part examined; the tumour was found to be much firmer, very painful when handled, and pulsated more feebly. An anodyne draught was administered, and the management of the instruments left to the patient himself during the night.

24th. The patient had no sleep from the pain in his thigh, and throughout the whole limb, which continued until three o'clock in the morning, and then gradually subsided. The tumour was considerably smaller and less painful, quite firm and solid, but still pulsated when the compressing instruments were taken off. The limb felt benumbed, and sensation was slightly impaired. Pressure was continued throughout the day by the two instruments alternately used. At nine in the evening, thirty-three hours after their first application, pulsation had entirely ceased in the tumour, the femoral artery could be traced to the sac, but no pulse could be felt in any of the arteries below that point, nor could the articular branches be felt about the knee. On the 25th, the use of the compressing instrument was discontinued. On the 4th Aug., the patient was discharged cured.

The second case occurred in a sawyer, 27 years of age, of intemperate habits, who came under Mr. Tuffoell's care on the 3d of Nov., with popliteal aneurism. At 2 P. M., Nov. 3d, twelve ounces of blood of a highly carbonaceous character were taken from the arm, and a drachm of the compound powder of jalap administered. At six o'clock P. M., pressure was commenced, by means of Read's instrument placed upon the artery as it crosses the pubis, and the ring tourniquet at the lower third of the thigh, the pulsation being entirely checked, and the patient taught how to alterate the pressure. This was borne till next morning at six A. M., when the pain became so severe in the limb generally, that he removed the instruments altogether.

November 6th. No alteration in the pulsation; the patient slept at intervals, and the bowels were once moved; pulse 78, and full. The same pressure was reapplied.

7th. The glands in the groin have become inflamed, and Read's instrument has been removed, the patient being directed to make pressure with his thumb against the pubis, and thus control the circulation, an assistant keeping his hand upon the tumour to ascertain the return of blood into it, and to direct increased pressure accordingly. The ring tourniquet was moved to the entrance to the canal in the adductors. At the evening visit, the leg was found to be oedematous, and the patient complaining of numbness, which was removed by bandaging the limb with a flannel roller, and elevating it on a stretcher made for the purpose.

8th. The pulsation has diminished, and the oedema is gone, the patient making no complaint. The ring tourniquet has been continued on the thigh, and pressure by a seven pound weight substituted for that of the thumb in the groin. Circulation has been arrested nearly all day.

9th. Says that he has not slept, that there is much pain *in the tumour*, and that he dreads unscrewing the ring tourniquet from the increased pain occasioned by the jet of blood into the sac. Patient slightly feverish, and complaining of headache, but of no pain in the foot or leg. Almost constant arrest of circulation during the past twenty-four hours.

10th. Using the ring tourniquet and weight; pain in the tumour diminished towards morning, when the patient slept, and awoke free from headache or thirst; says that he does not feel the blood jerk into the sac as heretofore, and that he does not now mind its influx. The clamps were substituted for the ring tourniquet and weight—one being placed at the centre of Scarpa's space, the other at the commencement of the canal in the adductors.

11th. Experienced much pain in the tumour and down the leg all the morning. At noon, whilst dozing, he was awakened by a sudden, acute, burning pain in the tumour and knee, which for two hours continued to be very severe. It then gradually subsided. On removing the pressure, *all pulsation in the tumour had ceased*. When visited at six, P. M., the foot and toes were cold, but friction speedily restored warmth, which was kept up by an extra flannel sock and roller.

12th. *Sac solid*; not the slightest thrill through the tumour, and a large collateral vessel running down the centre of its surface; slight numbness only of the limb; its temperature natural; compression continued for precaution's sake.

13th. At the evening visit last night, the patient was found smoking a cigar and intoxicated. His debauch, however, does not seem to have produced any ill effect. All pressure was removed to-day, a bandage having been fastened to the heel of his sock and to a belt round the waist, so as to check and prevent the sudden and complete extension of the limb during sleep.

The following remarks by Dr. Bellingham, who has been the ardent advocate of compression for the treatment of aneurism, are worthy of attention.

"The two cases which have been detailed," he remarks, "bring up the number of examples of popliteal and femoral aneurism successfully treated by compression, within the last five years, to thirty, in five of which the aneurism was seated in the femoral artery, in the remaining twenty-five in the popliteal vessel. Now, although a few cases may have occurred that have not been reported, it is obvious from the published cases that this mode of treatment has been, in a great measure, limited to Dublin. Thus from the London hospitals, only four cases have been reported, two by Mr. Liston, and two by Mr. Storks; five have been treated by military surgeons, including the two cases just read, this being the second which Staff-Surgeon Humphrey has treated since he has been stationed at the General Hospital, Phoenix Park; and two successful cases have been reported by naval surgeons; while all England, Scotland, and Ireland, with the exception of Dublin, have furnished within the same period but three other cases.

"It can hardly be that popliteal and femoral aneurism are so much more frequent here than elsewhere; but whatever may be the cause, it is obvious that if it be evidence of surgery having arrived at a more advanced state of perfection, where the necessity for operative proceedings is done away with, and a certain and safe method of treatment substituted for the knife (more particularly if the operation is one very perilous to life), then the surgery of aneurisms must be considered to have reached a higher state of perfection in Dublin than elsewhere, for during the last five years, but two cases of popliteal or femoral aneurism have been operated on in the hospitals in this city; and during the last three years at least, every case without exception has been treated by compression; and of twenty cases so treated, eighteen have been perfectly and permanently cured; of the remaining two, one, a patient of a broken-down constitution, died of erysipelas during the progress of the treatment; the other died of heart-disease shortly after the cessation of pulsation in the aneurism.

"It has been repeatedly and frequently urged against the treatment of aneurism by compression, that it is not only a much more tedious procedure than the ligature, but that it is also much more painful. There can be no doubt that if this method is undertaken by a surgeon who is ignorant of the manner in which compression effects the cure of aneurism,—who does not understand how to regulate the compressing force,—who is not aware of the degree of pressure necessary, or where to apply it most advantageously,—and who is not provided

with the proper instruments for making compression,—the treatment will prove both tedious and painful, and we cannot wonder that it should fail in such hands; and the few cases which have been put forward with the object of deterring surgeons from using compression, present a sad contrast in this respect to the two just detailed. In Mr. Humphrey's case, for instance, compression for thirty-three hours was sufficient to cure the disease; in five days, the patient was walking about, and in five more, he left the hospital, the use of the limb being perfect; a period at which, if the operation had been performed, and everything had gone on satisfactorily, the patient would still have been exposed to the risk of ulceration of the artery and secondary hemorrhage. In Mr. Tuffnell's case, in which the disease was of longer standing, the sac of a larger size, the patient of intemperate habits, having recently had the venereal disease, and the treatment conducted under all the disadvantages of a crowded lodging, where the regulation of the compressing instruments must have been left in a great measure to the patient himself, the treatment, notwithstanding, lasted only for six days, and the patient in that comparatively short period was perfectly cured of a painful and dangerous disease. I cannot help, therefore, saying that any surgeon, with such powerful evidence in favour of compression as these two cases afford, coupled with the previous evidence in its favour, who would expose his patient to the pain and risk of the operation in popliteal aneurism, or in femoral aneurism low down, would, to use a mild expression, be exceedingly culpable.

"There are one or two points connected with the foregoing cases worthy of further remark. The first is the relief from pain which the second patient experienced when the compressing instrument was applied, and the return of pain when the pressure was removed; evidently owing to the stretching and compression of the parts about the aneurism being taken off when the blood was prevented from entering the sac in a full stream; and showing that when an aneurism is large and produces much pain, compression really relieves this pain, and its application affords so much ease to the patient that he willingly maintains continuous pressure.

"The second is the occurrence of severe pain, and of an unusual character, in the parts about the aneurism at the period that the pulsation ceased. This fact has been frequently mentioned in the details of the cases of aneurism treated by compression hitherto recorded; it was very well marked in both the cases just read, particularly in the second.

"I am of opinion that this pain is caused by the sudden enlargement of the collateral vessels, which ensues when the artery is obliterated at the point from which the aneurism springs, by which the neighbouring parts are necessarily also compressed, particularly the nervous twigs which accompany these arterial branches; because this pain does not set in until immediately before the pulsation finally ceases in the aneurism; because at this period we first detect pulsation in the articular arteries or other anastomosing branches; and because this pain subsides of itself after a time, as the new circulation becomes fully established. That the collateral vessels about the knee do not enlarge in popliteal aneurism until the aneurismal sac is filled up, and the artery at the part is about to be obliterated, is proved by their pulsation being detected first at this period; yet if we consult works upon surgery, we should be led to suppose that nothing was more easy than to bring about the enlargement of the collateral vessels; indeed, compression was formerly recommended by writers on aneurism with this object, as a preliminary step to the operation, by which they supposed the chances of success of the operation would be increased. But as the writers of the period to which I allude had not clear ideas respecting the mode in which the ligature effects the cure of aneurism, and were entirely ignorant of the manner in which compression brings about this result, we may be excused for not admitting their conclusions respecting the enlargement of the collateral vessels.

"As there seems, however, to be still some misunderstanding or some difference of opinion with respect to the exact mode in which compression effects the cure of aneurism. I shall avail myself of the present opportunity to make a few observations upon this point.

"It is obvious, first, that whatever mode of treatment may be adopted, unless

the sac of an aneurism becomes completely impervious to the entrance of blood, the disease will not be cured.

"It is also obvious, secondly, that an aneurismal sac to be impervious to the entrance of blood, must become solid: that is, must be filled up with solid matter.

"Thirdly, an external aneurism to be perfectly and permanently cured, must not only become solid, but the artery at the point from which it springs must be obliterated.

"That these objects are fulfilled, as well when a cure is effected by compression upon the artery between the aneurism and the heart, as when the ligature is successfully used, or when the cure has been brought about by nature's unaided efforts, I shall now endeavour to prove.

"If we examine the sac of an aneurism where a spontaneous or natural cure has taken place, we find it filled with fibrin deposited in successive layers, the earliest or first formed being adherent to the interior of the sac, so as sometimes to appear almost to constitute part of its walls, and the succeeding layers in concentric laminæ, each within the other, until the cavity is perfectly filled. It is then completely impervious to the entrance of blood, and may be said to be cured, although the artery from which it springs preserves its channel unaltered.

"I had the opportunity of exhibiting to the society last winter an aneurism of the thoracic aorta, which had undergone a spontaneous cure probably many years previously, and which illustrated these points remarkably well.

"The consolidation of the sac being then the first and most essential step in the cure of an aneurism, and the deposition of fibrin in it being the process by which nature accomplishes this object, it is only reasonable to suppose that where artificial means are employed, they act by assisting nature in bringing about this result; we should therefore expect to find a similar condition of the parts after a cure by the ligature of the artery some distance above the sac, or after a cure by compression upon the artery between the aneurism and the heart; and this is exactly what we do observe.

"In the first case in which the femoral artery was tied for popliteal aneurism, the patient died of fever some months subsequently, and the opportunity was afforded for examining the condition of the parts; the sac was found to be solid, and filled with layers of fibrin. A drawing of the sac and of the artery is contained in the *Philosophical Transactions*, to which it was communicated by Sir E. Home. Many parallel cases are likewise scattered through the works of writers upon aneurism.

"A patient who had laboured under popliteal aneurism, and had been submitted to compression, but who died before the aneurism was cured, afforded me the opportunity of examining the condition of the parts. I found the sac of the aneurism in this case also nearly filled up by fibrin deposited in concentric laminæ. The preparation was exhibited to this society last winter, and is now in the museum of the college.

"Here, then, we have pathological evidence that the consolidation of the aneurismal sac is brought about in the same way, whether the disease be entirely left in nature, or whether it be assisted by art; and whether the artificial means used be the ligature or compression.

"Now, it is hardly necessary to observe, that in cases where a natural or spontaneous cure of aneurism takes place, the fibrin which fills the sac is deposited by the blood which circulated through it; there is no stagnation of the blood, no coagulation of it here; indeed the regular order in which the laminæ of fibrin are arranged, prove that they must have been deposited by a current of some kind. It is evident, therefore, that if, on examination of an aneurism, some time after its cure by the ligature, we find the sac filled with regular concentric laminæ of fibrin, a current of blood must have continued to pass through it subsequent to the employment of the ligature. It is equally evident also that if the same appearances are observed after the use of compression, a current of blood must in this case also have passed through the sac until it became filled and consolidated.

"The conclusions, then, to which we are necessarily led by the foregoing considerations are, that it is essential to the consolidation of an aneurismal sac that a current of blood should pass through it. Both the ligature and compression, therefore, would appear to act merely by assisting nature to accomplish, within a

comparatively short period, what otherwise would have occupied a long time, or which, owing to a number of disturbing circumstances, she might never have been able to accomplish.

"In order, however, that the core of external aneurism should be permanent (no matter by what manner it is brought about), it is essential that, in addition to the consolidation of the sac, the *artery* itself should be obliterated at the point from which the aneurism springs. This is a point which has been in a great measure overlooked, and it is one of which we find no satisfactory explanation in works on aneurism.

"Thus in all the cases in which the opportunity has been afforded for examining the condition of the parts a long time after the employment of the ligature for popliteal aneurism, the artery has been found to be obliterated at the site of the aneurism as well as at the site of the ligature, while between these two points the channel of the artery is preserved. In the only instances in which the opportunity has been afforded for examining the condition of the parts some time after the cure by compression of popliteal and femoral aneurism, the artery was obliterated at the point from which the aneurism sprung, and only at this point. In the cases which have been detailed by the older writers, where external aneurism underwent a spontaneous cure, and where the parts were examined subsequently, the artery was also found to be obliterated at this point, and at this point only and the appearances were precisely similar to those found after the use of compression.

"These facts, then, render it still more probable that the mode in which compression and the ligature act in bringing about the cure, is the same as that by which nature accomplishes this object—viz., by the deposition of fibrin continuing after the consolidation of the sac, until the artery, at the point from which the aneurism springs, is also filled.

"It is still supposed by some surgeons that pressure upon the artery between an aneurism and the heart, acts by causing the *coagulation* of the contents of the sac. Now if, for argument's sake, we suppose that compression cures aneurism by developing a coagulum in the aneurismal sac, how are we to account for the obliteration of the artery at the point from which the aneurism springs? How are we to account for the disease never having returned in any of the cases successfully treated in this city? How explain the non-occurrence of suppuration in the sac in any of these cases?

"If, by means of compression upon the artery at the cardiac side of an aneurismal sac, we could coagulate its contents (which is highly improbable), the artery would not be obliterated at the point from which the aneurism sprung, pulsation would return in the sac, and the disease would reappear, or suppuration in the sac would be likely to ensue, the coagulated blood acting as a foreign body, and the frequent banding of the sac contributing to this result. The fact of the disease having been permanently cured in every case in which compression has been employed in this city affords evidence (even if we were without pathological proofs), that the coagulation of the contents of the sac was not the agent in effecting this; while the circumstances under which pulsation has returned after the employment of the ligature, or suppuration has ensued after the operation, confirm what I have already said.

"When either of the foregoing accidents follows the ligature, it generally depends upon the vessel having been tied so close to the aneurismal sac that the blood is completely cut off from it, no current passes through it, and no fibrinous layers can of course be deposited; the blood, which finds its way into the sac after the operation, coagulates there; consequently we can hardly be surprised at a secondary aneurism forming under such circumstances, or that suppuration in the sac should ensue if the tumour is much or frequently handled. In the majority of cases, the ligature being applied at some distance above the sac, the blood soon finds its way into it by the anastomosing vessels, a feeble current passes through it, the fibrin is detached and deposited upon its lining membrane, and the cure is eventually brought about exactly as when nature effects a spontaneous cure, or when compression has been used; the core is necessarily permanent, too, for the reasons stated, and suppuration of the sac never ensues, because fibrin, unlike coagulated blood, does not act as a foreign body.

"I have delayed upon those points here because I find that some surgeons are of opinion that by using and keeping up strong pressure, they will bring about the coagulation of the contents of the sac, and they expect in this way to effect a cure with greater rapidity. If this object could be effected by compression, it must be by a different mode from that which has been hitherto used. To produce this effect, in fact, it seems to me that it would be necessary to apply the pressure to the artery immediately above and immediately below the sac, and to maintain this so as to prevent any disturbance of the contents of the sac until the blood contained in it coagulated. But even if this could be accomplished, it may be gathered from what I have said that it would not be at all desirable to do so, as the patient would be then liable to a return of the disease, or to the accidents in which I have alluded. When strong pressure is used, so as completely to interrupt the circulation in the artery at the part, it merely acts by permitting a very trifling stream of blood to pass through the sac; and whether the pressure be strong or moderate, the cure of the disease seems to be effected in the same way.

"As there is a great difference in different individuals in the sensibility to pain, we may of course use stronger pressure, and continue it for a longer period in one subject than another; and a cure will of course be more quickly accomplished in a patient who can bear continued pressure for a considerable time, than in one who is so little tolerant of pain that he removes the instrument, or relaxes the screw the moment the surgeon is out of sight; and this seems to be one of the circumstances which has most materially influenced the duration of treatment in the several cases hitherto recorded.

"The pathological evidence which has been adduced, combined with phenomena observed during the progress of the treatment of cases of aneurism, all tend to prove that the cure of the disease is effected in one and the same way, whether the ligature is used, whether compression is employed, or whether the cure is brought about by nature's unaided efforts. It may therefore induce surgeons to look with more favour upon compression as a mode of treatment, if they will bear in mind that, when they place a ligature upon an artery for aneurism, before a cure can take place, the artery of the limb must be obliterated at two points of its course—viz., at the site of the ligature and at the site of the aneurismal sac; and this must be accomplished within a comparatively short period, or secondary hemorrhage will ensue from the wound, or a secondary aneurism will form at the site of the sac. We can hardly be surprised, therefore, that so many accidents surround the operation, and the amount of success which has hitherto attended it only proves the unbounded powers of nature. Indeed, as the circulation of a limb must be with some difficulty maintained, when the artery which supplies it is obliterated at two points of its course, we cannot be surprised at gangrene supervening upon the operation in a case where the aneurism has been allowed to attain a very large size, by which the anastomosing vessels are compressed or prevented from enlarging, and by which the return of the venous blood from the parts below is interfered with.

"On the other hand, when compression is employed, the artery is eventually obliterated at one point only in its course; the treatment is altogether unattended by danger; there is no risk of secondary hemorrhage; none of the formation of a secondary aneurism: while it possesses this great advantage, that it can be intermitted and resumed according to the varying circumstances of each particular case."

30. *Oblique Fracture of the Femur immediately above the Condyles.*—Mr. JAMES SPENCE was sent for on the night of the 9th of July, 1845, to visit Mr. M—, who had been found lying insensible at the foot of a very steep stair, down which it was supposed he had fallen. On arriving at his house, he was found lying on a couch; the right thigh was fractured close above the knee-joint, and as the limb was imperfectly supported, the sharp point of the broken shaft of the femur was seen projecting, merely covered by the skin. There was great effusion around, and into the knee-joint, and the patella was found, after some manipulation, lying deeply seated towards the inner side of the projecting end of the shaft of the femur, and apparently locked between it and the condyles. By extension, the projecting portion was considerably reduced, and the appearance of the limb when

viewed laterally was very similar to dislocation of the tibia backwards. On further examination, there was found a fracture of the neck of the humerus, and of the ribs on the same side, and several contused wounds of the head and face. After putting up the fracture of the humerus and bandaging the chest, the patient was placed in bed, and it was attempted to complete the reduction and co-apta-  
tion of the fractured femur. Extension was made on the leg by two gentlemen, whilst counter-extension was kept up by means of a folded shawl applied as a perineal band by another party; but this attempt was ineffectual, as the projecting shaft seemed locked by the position of the patella. As the projection was in the outer side of that bone, extension was next made in an oblique direction in the axis of the broken shaft of the femur, and it was endeavoured to disengage the bone from the muscles through which it had protruded, by bending the leg and thigh towards the pelvis; but these attempts were attended with but little further benefit to the position of the bone. The long splint was therefore applied to keep up what advantage had been gained by extension, and a large opiate, with occasional doses of camphor mixture, was ordered.

Next day, with Mr. Syme in consultation, further reduction was again attempted by extension, but ineffectually; the splint was therefore again applied. The patient, who had been very excitable before the accident, became gradually worse; delirium set in, antimonials combined with opiates were given, but could not be continued, owing to the state of the pulse: the camphor mixture and opiates somewhat relieved him and procured rest; but he gradually became worse and died on the 13th of July, the fourth day after the injury.

With some difficulty permission was obtained to examine the broken thigh and take a cast of it; but no further examination was permitted. On dissecting off the skin, the sharp point of the broken shaft of the femur was seen to have perforated the cruræns and vastus externus muscles, appearing immediately on the outer edge of the tendon of the rectus, which it had also perforated; it overlapped and pressed firmly upon the upper and outer edge of the patella, locking it against the condyles of the femur. The condyles and the lower fragment of the femur, together with the leg, were drawn backwards, upwards, and rather inwards: the sartorius and inner-hamstring muscles were very much relaxed. After taking the cast of the dissected limb, efforts were made to reduce the bone, but still in vain; the wound was then enlarged upwards in the axis of the bone, but without success, until the vastus was divided, together with a small part of the tendon of the rectus, in a transverse direction, when reduction was accomplished with the greatest ease. On this being done, the condyles separated, showing that they had been split up by the injury; and, on carrying the dissection further, the bone was found comminuted into numerous fragments.

*Remarks.*—The kind of fracture of which an example has been given is not of very frequent occurrence, and opportunities of examining the exact state of parts by dissection are very rare. Sir Astley Cooper, in his work on fractures, has given the history of two cases, and states, that he considers it "a most formidable injury from its consequence on the future form and use of the limb; for it is liable to terminate most unfortunately by producing deformity, and by preventing the flexion of the knee-joint." He also gives an account of the dissection of a case of this kind of fracture which he had an opportunity of seeing in a body brought into the dissecting-room, and of which a plate is given in the large edition of his work. All the cases mentioned by Sir Astley, seem to have terminated unfavourably as regards the usefulness of the limb; and though he does not mention that there was any difficulty in reducing and replacing the bones, and seems rather to impute the bad result to the difficulty of keeping up extension, Mr. Spence was of opinion that the ordinary long splint would keep up the extension sufficiently, if the broken ends of the bone were fairly brought in apposition. From the state of parts found on dissection in the case related, as well as in the dissection given in Sir Astley's work, there must, in most of these cases, be great difficulty in freeing the end of the shaft from the muscular fibres through which it has protruded. Although the projection may be considerably diminished by extension, there will, in cases where the bone has passed through the cruræns and vastus muscles, be a risk of muscular fibres intervening between the broken surfaces, and so preventing firm union. The position of the patella, also, firmly fixed to the inner side of

the projecting end of the shaft, and locked between it and the condyloid portion of the femur, serves to check extension and prevent the lower broken portion being brought into a line with the shaft. From the ease with which the bone was reduced after death, when the fibres of the muscles surrounding it were divided transversely, although it had previously resisted strong efforts of extension, and free longitudinal incision, the author, in similar circumstances, taking into account the usual unfortunate termination of such cases, considered himself warranted in dividing freely the muscular tissues surrounding the projecting bone by means of subcutaneous incisions, as any additional risk from such a proceeding would be more than compensated for by the advantage obtained from its facilitating the reduction and co-apartatioo of the broken bone. It will be noticed that in this case, when extension was effected, the condyloid portion of the femur was found split longitudinally. This must be of very frequent occurrence in such accidents when the bone is broken so low down as in the case just related, and when we consider the anatomical formation of the femur near the knee-joint. But it is a lesion which cannot be fairly ascertained so long as the other fracture is non-reduced, because the lower broken portion of the shaft presses the outer condyle against the inner, and so keeps them firmly locked together.—*Proceedings of Medico-Chirurgical Society of Edinburgh*, April 19th, in *Monthly Journal and Retros. of Medical Sciences*, May 1848.

31. *Case of Compound Fracture of the External Condyle of the Femur, laying open the Knee-joint, complicated with a simple Transverse Fracture of the Lower Third of the same Bone.* By W. P. BROOKES.—The subject of this injury was a lad, aged eleven years and a half. The accident occurred in 1845: whilst the boy was in the act of getting up behind a coach, he fell, and the left leg and thigh got entangled between the spokes of the hind-wheel whilst in motion. On examining the limb, the author found a compound fracture of the femur, extending obliquely downwards through the external condyle, which was movable with the lower portion, projecting through a wound in the popliteal space. The leg was twisted inwards, much hemorrhage had taken place, and the patient was in a state of collapse. On further examination, the capsular ligament was found to be lacerated, and synovia escaped,—the wound in the popliteal space being as large as a five-shilling piece. There was also a simple fracture of the lower third of the same thigh-bone. When the boy rallied, amputation was proposed and urged as the only chance of saving life; but the father refused to sanction the operation. The limb was therefore adjusted, and the natural position maintained, as well as the circumstances would admit of, by a straight splint, extending from the hip to the ankle, and a concave one on the inner side of the thigh. For some time the constitutional disturbance was very considerable, but gradually subsided. At the end of the sixth week the splints were removed, and the fractures were found to be firmly united. The lad has recovered the entire use of the limb, on which he can bear his whole weight, and can bend the knee-joint at right angles. There is no perceptible difference in length between the two limbs. The author concluded with some remarks upon the rarity of recovery after so severe an injury, and considered that the case he had narrated should act as a practical lesson to the surgeon to trust more to the *vis medicatrix naturæ*.—*Proceedings of Royal Med. and Chirurg. Society*, in *Lond. Med. Gaz.*, March 1848.

32. *Fracture of the Olecranon—new method of bringing the fragments into opposition.* By M. HÉRVEZ de Clégoïn. The difficulty of maintaining the two portions of a fractured olecranon in contact, without keeping the forearm in a position which, if fixedly preserved, would render its functions useless after the time necessary for consolidation had elapsed, has caused the greater number of surgeons to be satisfied with a union as little mediate as possible, by preferring the semiflexed position of the limb to its complete extension, which, however, has been adopted by some with success. The case observed by M. Baudens is well known; and perhaps after a greater number of instances, this method will be more generally tried; perhaps, too, it is more easy to bend an arm which has been kept long extended than to extend one which has been long flexed, because the muscles of flexion are more powerful than their antagonists. But the utility of a bent forearm, and the

helplessness of an extended one, have till now given the preference to the semi-flexed position. In the meantime, I wish to make known a plan that I have recently adopted with the greatest success.

A woman, 65 years of age, of very spare habit, fell violently on the staircase, and fractured the left olecranon a little below its middle. I did not see her till the next day; there was then considerable swelling above and within the articulation down to the middle of the forearm; while the point corresponding to the fracture was scarcely swollen, and the skin then preserved its natural colour, which gave reason to suppose that the fracture, though caused by the fall, was the result not of direct violence, but of muscular action.

The fragments were separated by an interval of nearly half an inch; they were easily brought together by extension of the forearm and pressure on the upper portion, but an involuntary movement of flexion immediately separated them.

The contusion of the arm and forearm had been violent. The swelling and ecchymosis increased on the following days, and extended to the hand. The pain became more severe on the eighth day, and the cold lotions were exchanged for emollient poultices. The joint, however, remained free from this tumefaction, which confirmed my view of the manner in which the fracture had been produced, and allowed me to see what took place between the two fragments.

On the eighth day the interval between them was filled by a soft substance, which increased in quantity on the succeeding days, so as to rise above their level behind. It had become more liquid, and afforded an evident sense of fluctuation.

On the fifteenth day it was much reduced, and allowed the finger to be placed between the fragments. By this time the pain and swelling of the forearm had nearly disappeared, but the ecchymosis remained down to the wrist, with a degree of induration of the soft parts. The forearm till now had been kept on a pillow in the semisflexed position without any apparatus, of which the patient was singularly apprehensive from the recollection of what she had suffered from bandages too tightly applied for a fracture of the clavicle.

The object was now to bring the fragments together without exercising any compression, and at the same time to keep the forearm semisflexed. For this purpose I contrived the following apparatus:—I placed the limb in a hollow, jointed splint, deeply excavated behind so as to leave the posterior surface of the joint free. At the upper part of this hollow I fixed a piece of elastic gum, about two inches square and a third of an inch thick, by means of narrow tapes passed from within outwards through two holes made on each side. At the two inferior angles were fixed two other tapes, which I also passed from within outwards through two holes bored on each side of the lower margin of the excavated portion of the splint. I then applied the piece of elastic gum above the upper fragment, and by gently drawing the lower tapes, brought it easily into contact with the inferior fragment. Fearing, however, that this pressure might cause some pain, I loosened the tapes a little, satisfied that a slight but continued action would overcome the muscular resistance.

The fragments became gradually approximated, merely taking care to tighten the tapes according as they became relaxed, and at the end of six weeks were so close that the finger could scarcely detect the interval between them. About the thirtieth day I began to give a little passive motion to the joint; this caused a little pain, not in the joint, which all along was free from any inflammatory action, but in the soft parts of the forearm, which for a long time continued indurated by the blood infiltrated in their substance and beneath the integuments, which, after two months and a half had elapsed, retained the yellow hue of old contusions. The patient, however, could execute with facility the fullest movements of flexion and extension.—*Dub. Med. Press*, May 24, from *Gazette des Hôpitaux*.

33. *Cases of Ununited Fracture successfully treated.* By W. B. PAGE, Esq.—The first case narrated by the author was that of a young man, whose radius and ulna had been fractured thirty-four weeks, before the operation of excising the fractured extremities of the bones was had recourse to. He had suffered from other fractures at the same time, which had united soundly. The injured forearm was an inch and a half shorter than the sound one; the fracture of the bones was oblique, and the shortening resulted from overlapping of the extremities. The seat of

fracture was exposed by incisions over either bone on the posterior aspect of the forearm; and a curved director being passed beneath each fragment in succession, they were removed by means of a small Hey's saw, and with the assistance of cutting forceps. The forearm was then immovably fixed in an angular splint, in a position between pronation and supination. At the end of ten weeks, union was complete; and after the lapse of six months, the patient had almost entirely recovered the original use and strength of his arm. The second case was one of ununited fracture of the tibia and fibula. In this instance the cause of non-union appeared to have been the want of entire and sufficiently prolonged rest, which was accordingly resorted to for two months, but without a satisfactory result. The author then inserted two setons, one over the outer, the other over the inner, surface of the fractured bone; but the threads were removed in ten days, in consequence of the inflammation that ensued. In two months more, union was complete. In the third case the injury was likewise a fracture of both bones of the leg. Mal-treatment caused protrusion of the tibia, a portion of which was removed with a saw at the end of two months; and this operation was followed by repeated exfoliation from both tibia and fibula. In this way nine months elapsed before there was any attempt at union, when the patient came under the author's notice. His first care was to heal the wounds, and then to keep the limb at perfect rest for three months. Union was then complete. The fourth case was an illustration of non-union from want of proper nutriment. When this necessary adjunct to surgical assistance was supplied, the patient, a female, speedily recovered. In the fifth and last case, non-union of fractured tibia and fibula was accounted for by syphilis taint in the system, which was corrected by the specific influence of mercury, and then union took place. The author concluded with some general remarks on the cause of non-union of fractured bones, as illustrated in the preceding cases, and by remarking that the serious operation of resection of the fractured ends is admissible only in a limited class of cases, such as that narrated in his paper.—*Proceedings of R. Med. C. Soc., in Lond. Med. Gaz.*, March 1848.

34. *Diagnosis of Incomplete Fractures.*—M. DEBRON, relating a case of fissured fracture of the lower end of the femur, which was undetected during life, observes that while the obscurity of these cases, owing to the absence of crepitus and all the usual symptoms, renders detection difficult, it is very important for the patient that this should be effected; else he is not placed under restrictions in the movements of his limb, which are essential to his well-doing, inasmuch as inaction in this respect has led to the development of inflammation, which has terminated in death, or the loss of the limb. Severe pain at the seat of fracture, distinguishable from the more diffused, less fixed, and less intense pain of the accompanying contusion, is one of the best signs. If the indication furnished by this is overlooked or inappreciable, and the limb is not secured, another sign manifests itself, viz., *erysipelas arising at the very seat of fracture*, thus developing itself after the inflammation depending on the contusion had subsided. This erysipelas is accompanied, too, by an edematous or pasty feeling of the part. The delay (perhaps several days) in the appearance of this form of erysipelas, arises from the inflammation first occurring among the soft parts around the bone, and spreading from within outwards (inversely to what it usually does), it being, in fact, but a symptom of the suppuration which is going on between the bone and the muscles.—*B. and F. Med. Chir. Rev.*, April 1848, from *Archives Gén.*, tom. xvi.

35. *On Petit's Operation for the Relief of Strangulated Hernia* By JAMES LUKE, Esq.—The object of the author in this communication was to place before the profession the result of his experience in operating for strangulated hernia, without opening the sac. He remarked, that though experience was the only fair test by which the relative merits of this and the ordinary operation could be decided, the subject was encompassed by many obstacles, such as the impossibility of obtaining exactly parallel cases, the importance of not mixing the observations of different surgeons or judging from selected cases. To obviate these difficulties and sources of fallacy, the author has yielded up the whole of his experience on the subject of Petit's operation, which is the only mode of operating he has adopted since the year 1841, as an ordinary practice. Being unable to supply from his own case-

book the result of cases operated upon by opening the sac, the author appealed to the experience of others, referring especially to statistical details given by M. Texier, Mr. South, M. Malgaigne, and collected at the London Hospital, and from the British journals generally, which gave a return of mortality of from one-third to more than one-half. Where the taxis is successful, similar statistics prove that a fatal result is very rare. The conclusion which seems naturally to flow from these facts is, that operative interference should be deferred, and the taxis pursued as long as it offers any prospect of a successful issue—an inference, however, which the author considers to be fallacious and mischievous in its tendency, as involving a safe source of procrastination, which in itself is the too frequent cause of non-success attending the operation. This assertion is borne out by statistical details of cases operated on at different periods, after the establishment of symptoms of strangulation. The author then proceeded to remark that the desideratum appeared to be, the introduction of an operation by which the taxis would be aided, but without incurring the risk attending the ordinary operation, by exposure of the contents of the hernial sac; and these objects he considered to be fulfilled by Petit's operation. Inclusive of selected cases occurring between 1831 and 1841, the author stated that he had attempted the performance of Petit's operation in eighty-two instances, which, with four exceptions, likewise comprised all the cases that had come under his care since 1841. Of this number the operation was completed, without opening the sac, in fifty-seven. In twenty-five it was necessary to open the sac to complete a reduction of the hernial contents—the opening varying in extent from half an inch to one inch and a quarter. With respect to the mortality amongst these patients,—of the fifty-seven in whom the sac remained unopened, seven died; of the twenty-five in whom the sac was opened, eight died. The author considered, however, that for statistical purposes it was preferable to exclude the selected cases (twenty-six in number), together with four other cases, of which three were considered moribund at the time the operation was performed, and the fourth died of secondary stricture six weeks afterwards. Of the remaining fifty-two cases, the sac was opened in twenty one, of which three died, and not opened in thirty one, of which two died. Of the cases in which the sac was opened, in ten the strangulation of the contents had existed, before the operation was performed, under twenty-four hours, of which number one died; in eight, above forty-eight hours, of which one died. Of the unopened cases, the strangulation had existed in thirteen under twenty-four hours, of which not one died; in eleven, under forty-six hours, of which one died. The author considered it important that the small size of the opening made into the sac, in the former class of cases, should be borne in mind, as it doubtless had an important influence in diminishing the ratio of mortality attached to this mode of operating. He then passed on to further details relating to the above cases, and the reasons for opening the sac, and stated that, of the fifty-two instances cited, twenty-nine were femoral, twenty inguinal, and three were umbilical hernia. He further pointed out the conclusion, from an analysis of the foregoing cases, that Petit's operation has proved most successful in the femoral form of hernia. In cases of inguinal hernia, the author limits his incision to a longitudinal division of the skin and fascia over the neck of the sac, of which ent the seat of stricture should be the centre. He then partially incises or scarifies the neck of the sac (if the seat of stricture, as it usually is), so as only partially to divide it, and so that it shall yield to the subsequent application of the taxis. In femoral hernia he considers it very desirable to avoid, as much as possible, interfering with the tumour in conducting the operation, and therefore recommends that a similar proceeding should be adopted—the centre of the perpendicular incision in this case being between the upper part of the tumour and the abdominal surface. Poupart's ligament is thus reached by carrying the finger from above downwards, and the stricture is divided on a director, introduced into the femoral ring. The operation advocated by the author is not considered by him to be so applicable in umbilical hernia, except where it is of small dimensions. The author concluded by noticing and combating the various objections which have been raised to Petit's operation, and by insisting on its value, apart from other considerations, as holding out inducement to surgeons to proceed with less delay to the performance of the operation, as he considered that procrastination, arising from the dread of having recourse to the

more severe operative interference ordinarily adopted, was in itself (as already remarked) a rise cause of the mortality which unhappily has too generally attended these cases.

Of the patients who had died after the operation detailed, Mr. Luke stated that in the first case the patient died from exhaustion, four days after the operation. No symptoms of inflammation were present. The second case was one of umbilical hernia, in which the symptoms of strangulation did not subside, although there were unequivocal proofs that it was removed, as the bowels acted freely. In three cases the patients sunk so soon after the operation, that he could not say of what they died. The condition of the bowels was not examined into. In no case was there any sign of inflammation, either as the result of the operation, or of strangulation.—*Proceedings of the Roy. Med. Chirurg. Soc.*, Feb. 22, from *London Med. Gaz.*, March 1848.

36. *Operation for Strangulated Umbilical Hernia.* By G. B. CHILDS, Esq.—At the meeting of the Royal Medical Chirurgical Society (Feb. 23), a plan proposed by Mr. Gay was mentioned, in which the object of the operator is to get at the stricture without at all exposing the hernial tumour. Mr. Childs has since performed in the operation in accordance to this plan.

The hernial tumour, which was of two years' standing, had become strangulated on the evening of the 7th of March. It was at least eight inches in its longest diameter; lay principally to the left of the umbilicus, on the abdominal parietes, which it depressed to a depth that made the distance between them and the integuments very considerable; and obviously consisted of a large mass of omentum as well as intestine. An operation for its relief was immediately required, and that proposed by Mr. Gay adopted, on the grounds that, from its great size, the corpulency of the patient, and the extent of wound necessary for its performance in the ordinary way, hardly any but a fatal result could be anticipated from it.

The patient was first placed under the influence of chloroform, and then a wound through the integuments and superficial fascia, not more than an inch in length, was made on the right side, just beyond the edge of the hernial mass. The finger was directed through the wound, and after separating some few bands of cellular and other tissues, which feebly obstructed its course, the neck of the sac was reached at a depth of at least four inches. The umbilical ring forming the stricture, was then felt constricting the neck of the sac, to which it was adherent, by means of some strong bands. These were broken down with the finger, but not without some difficulty, owing to the great quantity of fat, and consequent depth of the wound. A director was then insinuated between the sac and the ring, guided by the finger, which still remained in the wound, and the stricture divided. After breaking down some further adhesions, the parts were liberated, and the contents of the sac immediately returned. The patient had her usual truss applied at once, and no bad symptoms occurred to prevent her complete recovery.

The usual fatality attending operations for umbilical hernia, would, in the prognosis of the present case, have excited grave doubts as to the result, had the old operation been adopted; and Mr. C. thinks that the simplicity of the principle upon which the new operation is based, the little difficulty in ordinary cases of practising it, and the lessened probability of its being followed by any severe symptoms, form very decided arguments in its favour.—*Lancet*, March 18, 1848.

37. *On the operation of Gastrostomy as applicable to cases of obstructed Oesophagus.* By Prof. SEDILLOT.—The operation here proposed consists in incising the abdominal parietes opposite the anterior wall of the stomach, making an opening into the latter, and connecting the edges of this opening with the external wound, so as to form an artificial fistula, by which sustenance may be administered in cases where irremediable obstruction of the natural passage exists. Such cases, if left alone, are quite desperate, their only possible termination being death by famine; and Sédillot, therefore, holds that it is justifiable to interfere by any means which offers a chance of safety. That the operation which he proposes is not impracticable, is proved by various cases (such as that of the celebrated Alexis St. Martin), in which a stomachal fistula occurred, as a consequence of accidental wounds; and also by the experiments of Blondlot on animals, in one of which he kept a dog in

health two years, nourishing him by means of an artificial fistula of the kind described. Experiments of this description have also been performed by Sébillot himself, with a successful result. With these facts before him, he argues, that, although gastrotomy ought not to be proposed where there is a probability of life being continued for some time without interference, yet in those in which death is evidently imminent, and where there is no other resource, the surgeon ought not to hesitate about giving his patient the chance of a prolonged existence, and freedom from suffering.

If this be admitted, it is evidently of great importance to keep in view those circumstances under which obstruction of the œsophagus might render such an operation necessary. The author, therefore, enters into an elaborate review of all those lesions of the œsophagus which lead to permanent constriction of the natural passage. He gathers from pathological writers a great variety of cases, which he arranges under fifteen heads, viz:—

1. Congenital absence of part of the œsophagus.
2. Stricture in consequence of tumours in the neighbourhood of the œsophagus.
3. Tumours formed between the tunics.
4. Hernia of the mucous membrane.
5. Polypi.
6. Stricture, by atrophy of the tube, without appreciable lesion of its walls.
7. Atresia, from cicatrices, with loss of substance.
8. Fibrous stricture.
9. Fibrous degeneration of the muscular coat.
10. Cartilaginous stricture.
11. Osseous transformation.
12. Complete obliteration.
13. Cancerous stricture.
14. Impermeable stricture of the cardia.
15. Fatal œsophageal stricture without known cause.

The cases to which the operation is applicable, as above enumerated, appear to be referable to two divisions; the first being those cases in which the operation is performed without hope of modifying thereby the original diseased condition, and merely to prevent death by hunger; the second, comprising cases in which the original condition is susceptible of modification, and where the establishment of a new passage to the stomach either assists the cure, or prevents the further progress of the disease. In this respect, the proposed operation has a close analogy in its mode of application to the more familiar one of tracheotomy.

The principal cases to which gastrotomy is applicable, according to Sébillot, with the double purpose above mentioned, are those comprised in the 4th, 7th, and 13th sections of his arrangement. In the 4th series, in which the mucous membrane is thrust through the other tunics, so as to form diverticula, he holds that the constant passage of the food distending these abnormal pouches is certain to keep up the morbid lesion, and, even by dilating the pouches still farther, to hasten the ultimate obliteration of the normal passage; whereas, if the operation of gastrotomy be performed, there is a probability that the pouch may, in time, contract and obliterate itself. In the 7th series, comprising all the wounds and inflammatory lesions of the œsophagus, in which there is hope that the judicious employment of catheterism might ultimately restore the tube to its function, Sébillot holds that gastrotomy will often permit us to continue this treatment when otherwise the death of the patient by inanition would have frustrated our efforts; and he believes that, in such cases, the chances of cure will often be greatly increased by the complete rest which is obtained in the intervals of treatment for the diseased portion. Finally, in the truly cancerous lesions, where the diagnosis can be ascertained with any degree of certainty, he conceives repose of the part to be of the first consequence, as both catheterism and the passage of food through the cancerous part, tend very much to the rapid progress and fatal issue of the disease; and he thinks, therefore, that gastrotomy may possibly be found to be applicable to cancerous cases at an earlier period than that at which death by inanition is imminent.

It is necessary to state, that the operation has never yet been performed by Sé-

dillot, although he so strongly advocates its performance — *Med. Journ. and Retrosp. of Med. Sci.*, April 1848, from *Gazette Médicale de Paris*, Jan. 1847.

38. *On the Treatment of Strictures of the Oesophagus by Catheterism and Cauterization.* — M. GENDRON is of opinion that many strictures of the oesophagus, which at first appear incurable, will be found to yield to careful and protracted treatment by the oesophagus-bougie, with occasional use of cauterization. He objects to the treatment proposed by Sédillot (see last article) as being impractical and hazardous. The use of the bougie, on the contrary, is in no way dangerous if due care be taken; and the objections of the patient to it are of short duration, as the oesophagus becomes very soon accustomed to the stimulus of the instrument. So long as there is any obstruction, it is necessary to support and guide the bougie in its passage downwards, by means of two fingers of the left hand introduced into the pharynx. Dilatation occurs very gradually, and sometimes there appears to be a re-contraction, rendering it necessary to return to a smaller size of instrument after some progress has been made. The completeness of the cure is to be judged of chiefly according to two circumstances: — *First*, the ease with which a full-sized bougie can be passed, using one hand only; *second*, the disappearance of the tracheal rale, and unnatural quality of the voice, which almost invariably accompanies an oesophageal stricture.

M. Gendron alludes to four cases in which he has succeeded in curing tight strictures of the oesophagus by the method here spoken of. Three of these were in consequence of diphtheritic; one was without known exciting cause; one was not more than eighteen days under treatment; the rest from one to two months. Cauterization, by nitrate of silver, was employed in three of the cases; in two repeatedly; in the other, only twice. The elastic bougie, or the whale-bone staff with sponge, was used at short intervals; often several times in each day, but not so frequently after cauterization. — *Ibid.*, from *Ibid.*, No. 11.

39. *Fractured Patella—Subsequent Laceration of the Soft Parts, implicating the Joint.* — Dr. CROKER KING related the following example of this very rare accident, to the Surgical Society of Ireland (Nov. 20th, 1848).

The subject of it, a gentleman, was tripped by the rope of a canal boat, and, ineffectually endeavoring to regain his feet, he fell to the ground, from which he was unable to rise without assistance; this occurred on the 29th of Sept., 1846.

On examination a fortnight after the receipt of the injury, a transverse fracture of the right patella above its centre was apparent; the fragments were separated about three-fourths of an inch. The injury was treated in the usual manner; coaptation of the fragments was accurately maintained, but bony union did not take place.

On the 2d of March, 1847, five months from the receipt of the accident, the limb presented the following appearance: — The fragments had become separated to the extent of half an inch. The motions of the knee-joint were still considerably restricted, though it could be slightly bent. The patient could walk tolerably well without the assistance even of a stick. The joint measured thirteen inches and a half in circumference, the tape being carried round the joint at the seat of fracture.

On the following morning I received a hurried summons to visit this gentleman, who resided some distance from town. On my arrival I was informed that on the previous evening (while crossing the room), the knee had suddenly bent under him, that he suffered a severe shock, was sensible of something having given way, and that the knee had burst, and bled profusely.

On examination, an immense gash presented itself; it ran across the front of the joint corresponding to the interval between the fragments, which were now separated at least one inch and a quarter. The wound was half an inch wide and seven inches long, and consequently exceeded in extent half the circumference of the limb. The wound was occupied by a mass of blood, which had become hard and dry, fourteen hours having elapsed from the receipt of the injury.

I certainly felt much alarm for the safety of the limb on inspecting this formidable wound, as I did not see how the joint could have escaped being laid open. It was evidently the most judicious plan not in any way to disturb the dried coagula.

An attempt was made to approximate the edges of the wound. Such was found impracticable, as the skin was adherent to the separated fragments of the patella. The limb was placed on a hollow splint, and the integuments supported by broad strips of adhesive plaster to prevent the further retraction of the edges of the wound, and the entire was covered with light dressing.

In a few days severe constitutional disturbance supervened; the tongue furred; the pulse beat hard and frequent; and suppuration was freely established. On pressing the lower fragment, it yielded, and a copious discharge of purulent matter issued from the centre of the wound, and from the angles a transparent fluid, presenting all the appearances of synovia: the fever quickly assumed a hectic character.

A deep-seated abscess now formed on the inside of the limb, extending upwards for at least eight inches. The patient's countenance was expressive of much distress. The nights were passed with little sleep; and notwithstanding the exhibition of three grains of solid opium on the previous evening, the patient had enjoyed little rest, being constantly disturbed by pain and severe spasms extending up the limb; the pulse had risen to 120; the tongue was heavily coated, and the patient rapidly emaciating; there was, in addition, diarrhoea with bloody discharges, cutting pains in the abdomen, and night perspirations—in fact, the case was altogether as unpromising as it well could be, and the question of amputation as the only probable means of saving the patient's life of course suggested itself: however the liberation of the contents of this extensive abscess was first determined on. I made an incision an inch and a half long, four inches above the joint, and gave exit to ten ounces of most abominably fetid pus, mixed with elots of blood and sulphuretted hydrogen gas, which bubbled up through the matter—in fact, just such a discharge as we see in a suppurating hematocele. On the following day the matter having gravitated in considerable quantity and accumulated in the vicinity of the knee, I passed a director through the wound downwards to the most depending position, and, cutting on its extremity, thus made a counter opening. This great sinus being thus completely emptied, its walls were carefully and in the most accurate manner approximated by means of a circular bandage and well-adjusted compresses.

On visiting the patient on the following day, the change which had taken place in his general appearance was not a little remarkable. The haggard and fretted look had been replaced by a joyous expression. On inquiring how he felt, he replied "gaily;" he had, in fact, slept soundly; experienced no pain; the pulse had fallen to 80; the diarrhoea and night perspirations had ceased, and never returned; and what certainly surprised me, the walls of the sinus had become adherent at every point; there was not a single drop of discharge from the incisions, nor was there the slightest tension.

From this time the case progressed most favourably; the amount of discharge from the wound, which was a little tedious in healing, daily diminished, and cicatrization was complete on the 4th of April, thirty-three days from the receipt of the injury.

The cast which I exhibit was taken seven months subsequently. You observe a great transverse cicatrix corresponding to the wound, and two smaller perpendicular ones marking the site of the incisions. The fragments are at present two inches apart, and in the interval the external condyle of the femur is to be plainly seen and felt, apparently having no other covering but the integuments, and you may perceive that the transverse cicatrix runs immediately above the lower fragment.

The separation and the apparent total absence of ligamentous union between the fragments imperatively demanded some mechanical support to prevent a second yielding of the limb. I was enabled to obtain a very efficient apparatus from Mr. Millikin of Grafton-street. It consists of sole leather so prepared as to accurately mould itself on the irregularities of the joint. This gives complete support, and the gentleman is able to walk about without any other mechanical assistance.

Bell, in his *Operative Surgery*, mentions having observed a similar case. "I have seen," he remarks, "a very terrible accident follow the imperfect cure of the fractured patella. The bone had united by ligament, and this ligament had

incorporated with the skin in such a manner that it lost much of its pliancy. The poor man was carrying a burden and fell backward, the knee sunk under him, and the whole forepart of the joint was laid open by laceration. The case terminated in amputation of the limb.—*Dublin Med. Press*, Dec. 8th, 1848.

40. *Catheterism.*—The apertures in the catheter sometimes during its introduction into the bladder become completely plugged with coagulated blood, *entirely preventing the flow of urine through the instrument*. The following suggestion for overcoming this difficulty, offered by Mr. W. N. SPRONG, (*Lancet*, June 9th, 1848,) it seems to us will prove highly useful. He proposes to introduce the pipe of a common syringe into the orifice of the catheter, and by drawing up briskly the piston, the blood, he says, will be drawn into the cylinder of the catheter when the urine will flow quickly.

41. *Tracheotomy in Tetanus.*—Dr. HUCLES stated at a meeting of the South London Medical Society, Feb. 3d, that lately tracheotomy had been performed for the relief of tetanus, from the belief entertained by some, that death occurred in many cases from spasmotic closure of the glottis, but it had entirely failed; showing clearly that this accident was not always the cause of death.—*Lond. Med. Gaz.*, Feb. 1848.

42. *Death from Air entering a Vein divided whilst inserting a Seton in the Neck.*—An accident of this kind has recently occurred at Barnes, near London. No blame could be attached to the operator.

## OPHTHALMOLOGY.

43. *Painful Affection of the Eye cured by the Extraction of a Tooth.*—Dr. EMMERICH relates a case of this kind. A man consulted him on account of a painful affection of one of his eyes, which had lasted for nearly fourteen years, and occasioned him great suffering. There was considerable vascularity of the conjunctiva and sclerota, especially around the cornea, which structure itself was somewhat opaque and spotted. There was a continued flow of tears, with pain and intolerance of light. All these symptoms were greatly aggravated by any indiscretion in diet, and the use of the slightest stimulus, such as a single glass of wine. All kinds of remedies had been in vain tried, at different times, and the affection seemed incurable. On examining the upper jaw, Dr. Emmerich found a carious molar tooth on the side corresponding to that of the affected eye; the portion of jaw around this tooth was painful, and very sensitive to the touch. The patient thought that the pain in his jaw had begun about the same time that the affection of the eye commenced. The tooth was drawn, and almost immediately afterwards the symptoms relating to the eye began to subside, and soon entirely disappeared. The suffering in the eye was evidently the result of sympathy between the second and third branches of the fifth pair of nerves.—*Dub. Med. Press*, April 19th, from *Henle and Pfeiffer's Zeitschrift*, 1847.

44. *The Eye naturally adapted for Distant Vision.*—VOLKMANN and HUECK both agree in considering that, in its quiescent state, the eye is adapted to the vision of objects situated at the furthest point of distinct sight, and not, as has been generally supposed, of those situated about midway between this and the point of distinct vision nearest to the eye. In this case, therefore, in order to accommodate itself to the vision of an object placed at any distance within the furthest point of sight, the eye will require but one act, that, namely, of increasing its focal distance in proportion to the nearness of the object under view: no act will be requisite to adapt it to the perception of distant objects, for, in reverting to its state of rest, it at once resumes its capacity for distant vision, and retains it so long as its quiescent state continues. To proof of this opinion Volkmann observes that, in a state of rest, the axes of the eyes are directed towards a point even considerably beyond the most distant point of distinct vision, and that, since changes in the position of